

CALL, CONSENT AND WAIVER OF NOTICE OF A SPECIAL
MEETING OF THE COMMON COUNCIL OF THE CITY OF
FORT WAYNE, INDIANA TO BE HELD

TUESDAY, MAY 8, 1984, at 8:00 P.M.,
Common Council Conference Room 128

WE, THE UNDERSIGNED, BEING ALL OF THE MEMBERS OF THE COMMON
COUNCIL OF THE CITY OF FORT WAYNE, INDIANA, DO HEREBY CALL A SPECIAL
MEETING OF SAID COUNCIL TO BE HELD ON Tuesday, May 8, 1984,
AT 8:00 O'CLOCK P.M., E.S.T., AND JOINTLY AND SEVERALLY
WAIVE NOTICE OF THE TIME, PLACE AND PURPOSE OF SAID MEETING AND CONSENT
THAT SAME BE HELD ON THE AFORESAID DATE FOR THE PURPOSE OF
REVIEWING MANGEMENT AUDIT C.T.I,C, ASSOCIATES OF COX CABLE.

James S. Stiller

C. J. Schmitter

Ray A. Ebert

Samuel J. Talarico

Thomas P. Henry

Janet L. Bradbury

Janet L. Bradbury

DATED THIS 4th day of May 1984.

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

SEAL



The City of Fort Wayne

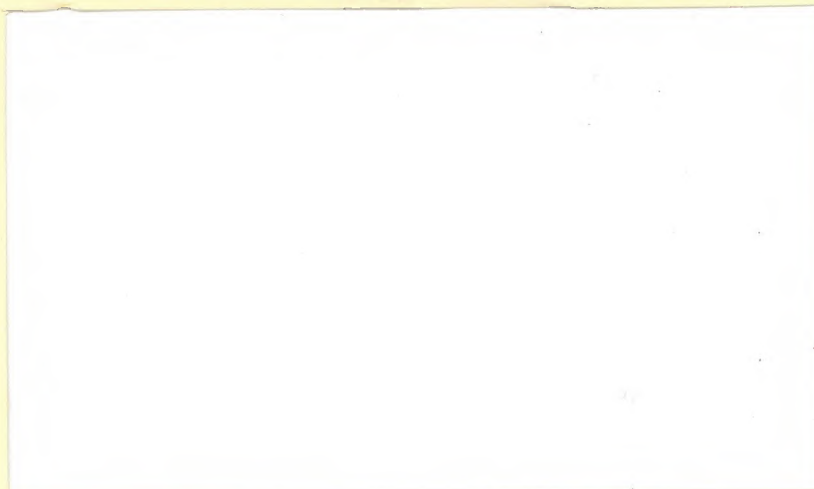
NOTICE OF A SPECIAL MEETING OF THE COMMON COUNCIL OF THE CITY OF FORT WAYNE, INDIANA

You are hereby notified that the Common Council of the City of Fort Wayne, Indiana, will hold a special meeting on TUESDAY, MAY 8, 1984, AT 8:00 P.M., E.S.T., COMMON COUNCIL CONFERENCE ROOM, ROOM 128, 1ST FLOOR, CITY-COUNTY BUILDING, ONE MAIN STREET, FORT WAYNE, INDIANA. Said meeting shall be held for the purpose of reviewing management audit C.T.I.C. Associates of Cox Cable.

DATED THIS 4TH DAY OF
MAY, 1984

Sandra E. Kennedy
Clerk of the Common Council of
the City of Fort Wayne, Indiana

STAN



CTIC Associates

1500 NORTH BEAUREGARD STREET, SUITE 205, ALEXANDRIA, VA 22311 (703) 845-1700

ANALYSIS OF PENDING RATE INCREASE
REQUEST OF COX CABLE SERVING
THE CITY OF FORT WAYNE,
INDIANA

CONFIDENTIAL

April 26, 1984

Prepared by

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ANALYSIS OF PENDING RATE INCREASE
REQUEST OF COX CABLE

INTRODUCTION

CTIC Associates has been retained by the City of Ft. Wayne to evaluate the proposed rate increase of Cox Cable. Cox is seeking an increase in its basic service fee from \$8.50 to \$11.95 per month. This represents a 41 percent increase in basic service charges.

This analysis, intended to be advisory only, is designed to evaluate, recommend and justify any changes in rates. In order to perform a thorough rate study, CTIC Associates requested that Cox complete a detailed financial pro forma. These financial report forms required five years of historical data (1979-1983) and ten years of forecasted data (1984-1993). The rationale for examining a 15-year period is that Cox is operating with a fifteen-year term of franchise and should not be precluded by a regulatory authority from obtaining a reasonable and fair return on its investment over that term of franchise. We also use the 15-year analysis period rather than a simple historical approach because the longer period portrays a more accurate picture of cable system profitability. Cable operators typically incur losses over the construction period due to the large initial investment required and because the subscriber base has yet to mature. A recommendation for increased rates based solely on the fact that early year losses have occurred may be faulted for failing to consider the ability of an operator to achieve a fair return on the same rates once the operation has matured.

Cox has provided most of the information requested by CTIC Associates. It has provided a completed set of financial report forms with a detailed breakdown of revenues, expenses and capital expenditures. In addition, Cox has provided applicable FCC 326 forms. Cox has not provided audited financial statements for the Ft. Wayne operation. Cox explains that the system is not audited on a stand-alone basis. Our report is structured in three parts. Part I reviews the financial data provided (both historical and forecast) to determine whether any of the reported expenses appear excessively high or reflect inefficient operation. In this part, we discuss the operator's specific financial performance and expected performance. In Part II, we provide a detailed discussion of the operator's rate of return, the level of revenue which is necessary to ensure a fair rate of return on its investment, and the rate structure which is necessary to allow for a sufficient return.

Part III provides a summary of our recommendations.

I. ANALYSIS OF HISTORICAL AND FORECASTED DATA

In this section, we review the historical financial data and the financial projections provided by Cox. Cox has reported five years of historical data and ten years of financial forecast for subscribership, expenses, and capital expenditure. Our objective in this section is to review the reasonableness of the items reported in order to determine if any expense appears excessively high and whether the system appears to be operating efficiently.

A. SUBSCRIBERSHIP AND REVENUES

The cable system servicing Ft. Wayne currently services approximately 30,000 subscribers. Its 540-mile distribution plant passes 64,500 homes. The system experiences a 48 percent market penetration rate.

System construction began in 1979. Most of the plant appears to have been completed in 1981, although some growth in plant mileage has occurred annually since 1981.

Miles of Plant Constructed

1979	480
1980	34
1981	14
1982	11
1983	<u>3</u>
TOTAL	542

Currently, about 7.6 percent of plant is underground. This is a comparatively low percentage, indicating that system construction was not unusually expensive.

Over the next ten years, Cox plans to construct an average of 2.6 miles of new plant per year.

In addition to the amount of underground plant, another demographic characteristic affecting system profitability is density of homes per cable mile. This ratio determines the size of the potential market, and thus the potential return to the operator per mile of plant constructed. The higher the density the better the potential return can be. Currently, density averages around 119 homes passed by cable plant per cable mile. This system has a reasonably good density.

Over the next ten years, Cox apparently plans to build plant in areas of increasingly lower densities. The ratio of additional homes passed by cable to the number of new plant miles constructed is about 89 homes per mile, significantly lower than the current average density. The total system density is expected to fall from around 119 homes per mile to 117 homes per mile over the next ten years.

Market penetration (the percent of homes passed by cable which actually subscribe to cable service) appears to have fallen over the past five years.

<u>Market Penetration</u> (percent)	
1980	63
1981	55
1982	46
1983	45

The current level of market penetration (48 percent) is slightly below the industry averages of 56 percent. However, this level of penetration is characteristic of urban markets which tend to experience lower levels of penetration.

Cox expects some increase in cable penetration over the next ten years. Market penetration is expected to steadily improve and mature at 53 percent by 1989.

Currently, Cox reports 31,280 pay cable units purchased. This translates into a 1.02:1 ratio of pay units to basic subscribers. This percentage is about average compared with systems of similar age. Cox expects the rate of pay subscription per subscriber to improve slightly (38 percent) over the next ten years. By 1989, Cox forecasts slightly more than a 1:1 ratio of pay services to basic subscribers.

Cox currently serves no commercial subscribers in the Ft. Wayne area.

Average Annual Revenues reported by Cox over the past five years are as follows:

<u>Average Annual Revenues</u> 1979-1983 (\$000s)	
Basic Service*	1,956
Installation	73
Pay TV	1,748
Other	41
TOTAL	<u>3,818</u>

*Includes second set.

Basic service revenues have climbed from \$63,000 in 1979 to over \$3.1 million in 1983. This increase in revenues has been accomplished through increases in subscribership and basic service rate increases. The operator has raised basic service rates once over the past five years. Basic service rates increased from \$7.00 per month to \$8.50 per month in 1982.

Pay service revenues have also steadily increased over the past eight years. In 1979, \$51,000 in pay TV income was reported. In 1983 over \$2.7 million was reported.

The "other" sources of revenue reported are for remote control, advertising and premium guides.

Over the next ten years, Cox forecasts the following revenues, with and without the proposed basic service rate increase:

	<u>Without Basic Increase (\$000s)</u>	<u>With Basic Increase (\$000s)</u>
Basic and 2nd Set	3,623	4,798
Installation	148	148
Pay TV	3,652	3,652
Remote	224	
Advertising	67	67
Mini Tier	402	52
TOTAL	<u>8,116</u>	<u>8,717</u>

Cox forecasts that the proposed basic service fee increase will generate an additional \$601,000 in annual revenues above those revenues currently forecasted.

Cox does not forecast rate increases for pay channels, remote devices, or remote control. No additional basic service rate increases have been forecasted during the remainder of the ten year forecast. Currently the average pay service rate paid is \$8.95 per month. We are somewhat confused by Cox's inclusion of revenues from a mini tier since it does not appear that such service exists. In addition, we do not understand Cox's inclusion of substantially more revenues for a mini tier under the no rate increase model than in its rate increase model. In response to this report, Cox is asked to clarify this .

The following table shows the actual and expected monthly revenue per subscriber with the rate increase (A) and without the rate increase (B):

Expected Monthly Revenue Per Subscriber

	<u>With</u> <u>Rate Increase</u>	<u>Without</u> <u>Rate Increase</u>
1980	\$ 8.29	
1981	\$12.71	
1982	\$17.23	
1983	\$17.95	
1984	\$19.81(A)	\$19.19(B)
1985	\$22.11(A)	\$19.78(B)
1986	\$22.32(A)	\$20.05(B)
1987	\$22.64(A)	\$20.39(B)
1988	\$22.98(A)	\$20.81(B)
1989	\$23.38(A)	\$21.22(B)
1990	\$23.67(A)	\$21.57(B)
1991	\$23.79(A)	\$21.68(B)
1992	\$23.83(A)	\$21.74(B)
1993	\$23.93(A)	\$21.84(B)

Average expected revenue per subscriber in 1985 is 23 percent higher than 1983 levels with the increase and 10 percent higher without the increase. The impact of the rate increase over the next ten years on the average subscriber will be about a 10 percent higher expenditure with the rate increase than without the increase.

B. OPERATING EXPENSES

Over the past five years, the Ft. Wayne system has experienced substantial increases in operating expenses, due largely to increases in subscriber levels, inflation, and higher programming costs. Since 1980, operating expense per subscriber has increased from about \$95 per subscriber per year to \$149 per subscriber per year in 1983, an increase of 57 percent.

Operating expenses can be allocated among three principal categories:

Plant Expenses; Origination Expenses, and General, Selling and Administrative Expenses.

1. PLANT EXPENSES

Plant expenses have constituted approximately 19 percent of all expenses between 1979 and 1983. Plant expenses are those costs associated with maintaining and operating the system.

Salary expense is, by far, the largest expense item under Plant Expenses. In 1983, approximately \$680,000 was spent for salary and benefit costs. Because the addition of plant miles and subscribers requires additional personnel, salary costs have increased dramatically over the past five years, from only \$172,000 in 1979 to \$672,000 in 1983.

Because much of the added salary expense was attributable to new construction, Cox was able to capitalize approximately 38 percent of its total salary expense over the last five years.

In 1984 a large increase in plant salary expense is forecasted. Twenty Two percent. In response to this report, Cox is requested to justify the forecasted increase. Since neither subscribers nor plant miles are expected to increase substantially, we cannot understand this large increase. Between 1985 and 1993, salary expense is expected to increase at an annual rate of between 4 and 7 percent.

Cox reports slightly high plant maintenance expense over the past three years. It reports plant maintenance ranging from \$122 to \$212 per mile over the past three years. This is high for a new plant. We would expect to see plant maintenance averaging between \$75 and \$100 per mile. As the plant

continues to age, Cox forecasts increases in plant maintenance costs. By 1993, plant maintenance is expected to average \$223 per mile, still quite high even for an older system.

Cox reports \$11,000 for converter maintenance in 1983. This averages less than 30 cents per converter in use. Converter maintenance costs are not expected to increase substantially over the next ten years.

Pole and site rental fees have varied somewhat over the past five years. In 1983, pole site rentals averaged about \$2.60 per pole per aerial mile yet in 1980, Cox reports spending \$10.21 per pole per aerial mile, which appears excessively high. Pole and site rental fees are expected to continue to climb. By 1987 Cox expects to spend \$3.80 per pole per mile and by 1993, this rate is forecasted to increase to about \$5.00 per pole per mile.

Power expense reported by Cox is quite low by comparison with other systems we have reviewed. Commonly power expense averages \$80 to \$100 per mile. Cox reports power expense at less than \$69 per mile in 1983. It is expected to increase to \$98 per mile in 1987 and \$128 per mile in 1993.

Cox appears to lease most or all of the vehicles it uses. In 1983, it reports a vehicle expense of \$103,000, which appears reasonable based on the cost of the leasing, as well as maintaining, a fleet of vehicles.

2. ORIGINATION EXPENSE

Origination expense is the cost of acquiring and/or producing programming for subscriber viewing. Origination expense represent approximately 35 percent of total system operating expenses over the past five years.

Most origination expense is associated with pay cable programming. Operators currently pay programmers based on subscribership and revenues. In

1983, pay cable expense represented about 48 percent of pay cable revenues. Usually pay cable expenses average between 40 and 48 percent of pay revenues depending upon the mix of the services and the ability of the operator to obtain volume discounts. Because Cox's parent company, Cox Cable, is one of the largest cable operators in the country, we presume it is able to achieve substantial discounts.

While industry analysts do expect pay cable fees to increase somewhat over the next few years, we believe Cox's forecast that pay cable expense will approach 60 percent of pay service revenues over the next ten years is unreasonably high. In our calculation of system profitability, we have revised this forecast to a more reasonable 48 percent. We believe the overstatement is around \$193,000 per year over the next ten years.

Another category which we believe Cox has overstated its forecast is in the category of copyright fees. Cox must pay copyright fees to carry the 2 distant signals, WTBS and WGN. These fees amount to 1.782 percent of basic revenues. Cox reports copyright fees at about 4 percent of basic revenues. We believe Cox has overstated this category by around \$113,000 per year.

Our analysis has adjusted Cox's figures by this amount.

3. GENERAL, SELLING AND ADMINISTRATIVE

Administrative expenses are the expenses associated with maintaining the business operation and billing. These expenses have accounted for 35 percent of total system expense over the past five years. In 1983, administrative salaries and benefits totalled \$559,000. The Cox system appears to have a very large administrative staff expense for a system of its size.

Administrative staff expense has varied over the past five years. In 1980 administrative staff expense was reported at \$548,000. It dropped to \$452,000 in 1981 and increased again in 1982 and 1983. Clarification on this item is also sought from Cox. Administrative staff expense is expected to almost double over the next 10 years, increasing at an average rate of 6 percent per year.

Over the past five years, bad debt expense has averaged 2 percent of total revenues. Over the next ten years, Cox expects bad debt to average 2.4 percent of total revenues. In the cable industry, bad debt expense typically averages between 1 and 2 percent.

Cox currently pays franchise fees based on 3 percent of basic revenues. However, for the next ten years Cox has forecasted franchise fees at around 3.8 percent of total revenues, an average annual overstatement of \$47,000. Our analysis is adjusted for this overstatement.

In 1983 Cox spent approximately \$3.70 per subscriber for advertising and promotion. Over the next ten years, it expects to spend approximately \$5.25 per subscriber for promotion. We believe this is very high for a system which has matured and is overstated by around \$40,000 per year.

Over the past five years, Cox has experienced a .68 operating ratio (operating expenses divided by revenues). In the cable industry, an operating ratio in the range of .55 to .65 is generally considered efficient. Without the rate increase, the operating ratio of the system is expected to average .73 over the next ten years. With the rate increase, the operating ratio is expected to be .67.

However, as discussed, we believe Cox has overstated certain of its expenses. Our estimate of the impact of these overstatements on the operating ratio is to improve the "no rate increase" forecast operating ratio to .66 and the "rate increase" forecast to a more reasonable .61.

An additional operating expenditure item is corporate overhead. Cox's parent company assesses a corporate overhead charge which has ranged between \$27,000 and \$519,000 over the past five years. Cox states that corporate charges are in exchange for executive, purchasing, engineering, accounting, legal, programming, and marketing services the parent company provides. In 1983, corporate overhead averaged 7.6 percent of system revenues. In 1981, it averaged close to 11 percent of system. Nothing short of a complete audit of the parent company's records could verify the reasonableness of these historical charges, which appear high to us as a percent of revenues compared with the systems we have reviewed.

Cox's forecast for corporate overhead over the next ten years averages about 9 percent of system revenues without the rate increase and 8 percent of system revenues with an increase. We believe that the reasonableness of corporate charges should be evaluated at the cost that these services could be achieved for on a stand alone basis. Since management contracts often call for Management fee of 5 to 6 of percent revenues for these services, we adjusted the future corporate overhead charges to a 6 percent of gross revenue estimate. This resulted in an average annual reduction in Cox's forecasted corporate costs of \$247,000.

In summary, we have raised several questions about Cox's reported expenses. In addition, we have modified some of Cox's financial forecast in

those categories which we found to be incorrect or excessively high based on industry data. Our adjustments, reflected in our revised financial statement in the appendix tables, were made so as to be conservative and to allow Cox the "benefit of the doubt." It is our hope that Cox will comment on these adjustments and provide clarifications of its operating expense allocations as requested at the end of this report.

C. CAPITAL EXPENDITURE

Cox states that it has invested \$11.0 million in capital expenditures for system construction and maintenance over the last five years.

These funds have been invested in the following manner:

1979-1983
(\$000s)

Headend	39
Distribution	3,749
Drops	2,591
Converters	2,446
Buildings	434
Leasehold improvement	130
Program origination	365
Land	52
Tools	95
Engineering	5
Vehicles	17
Preoperating	53
Capitalized Overhead & Interest	599
Construction in Progress	381
Other	86
	<u>11,042</u>

Cox claims to have spent \$3.7 million between 1979-1983 for distribution plant. In 1983, it reports 540 miles of plant. This works out to just about

\$6,943 per mile of plant. This is quite low. Usually single 300 MHz plant costs around \$8-\$12 thousand per aerial mile to construct. Underground plant costs at least \$12-\$15 thousand per mile. We would expect to see the distribution expenditures prior to 1984 at least \$5.5 million, almost \$1.8 million more than was reported.

Cox claims to have spent \$2.4 million for converters over the past five years. This works out to around \$60 to \$70 per converter and appears reasonable.

Over the next ten years, Cox forecasts the following additional capital investment:

	<u>1984-1993</u> <u>\$000s</u>
Antenna & Tower	33
Microwave	35
Distribution	602
Drops	1,170
Converters	4,020
Buildings	-
Leasehold improvement	52
Program origination	40
Land	50
Tools	147
Vehicles	113
Other	(17)
	<u>6,145</u>

Over the next ten years, Cox expects to add 21 miles of plant at an average per-mile cost of \$28,667. This figure varies substantially with the reported distribution costs between 1979 and 1983, but is consistent with current industry experience.

Cox's projected drop budget appears quite high. Cox forecasts \$1.2 million over the next ten years to add 1,957 net subscribers. Obviously some of these funds would be used for turnover and drop replacement. It appears

that Cox assumes an annual combined churn/replacement rate of drops at around 10 percent of the subscriber base.

Cox's expected expenditure on converters averages \$402,000 per year. About half of the ten year budget is allocated in 1989, when Cox expects to spend \$2.1 million. Cox has budgeted sufficient funds to replace all of the converters in use over the next ten years.

Distribution plant, drops and converters appear to be the major items of expected expenditure over the next ten years. The other capital items reported appear to be generally maintenance related and do not appear excessive in our opinion.

In addition to these items, Cox had budgeted \$16.2 million in 1985. Obviously this amount is sufficient to totally replace the entire system. Since it is highly unlikely that any such rebuild would be required before the end of the franchise term, we questioned Cox by phone about its inclusion of the funds. Cox informed us that this item is an error. We do note that this addition of \$16.2 million was included in its calculation of system assets, depreciation and interest costs. Our revised financial statements remove the impact of this forecasted cost.

D. CAPITALIZATION AND INTEREST COST

In response to this report, Cox is asked to provide clarification of its financial arrangements with its local investors. Specifically, we request clarification of a) the percent of interest held by the local investors, b) the exact quantity of capital invested by the local investors, c) any agree-

ments between Cox and the local investors for distributions of profits, losses, tax benefits and d) any interest income to the local investors.

The information provided by Cox in its forms was confusing about how the system was capitalized. The Balance Sheet shows \$10,000 in original equity and \$3.1 million in retained earnings and paid in capital by 1983. Yet according to the Income Statement, the system has cumulative back losses of close to \$2 million by 1983. The Balance Sheet also shows notes payable (debt) to the parent company of \$3.3 million.

The Sources and Uses of Funds Statement tells a different story. According to this statement, capitalization was achieved totally through parent company borrowing of \$12.4 million through 1983. Interest payments of \$4.4 million through 1983 are reported, averaging 35 percent of debt balances. Cox is requested to clarify how it developed its interest expense.

For the purpose of developing over analysis, in our revised financial forecast, we applied a 60:40 debt-to-equity structure to parent company balances. Future interest expense was calculated at an estimate of parent company interest cost of 12 percent on the debt portion of the balance. These distributions are presented in Appendix Table XVII (without increase) and Table XIX (with increase).

Cox reports average annual interest expense of \$1.417 million. However, this calculation assumed the need to borrow an additional \$15.5 million in 1985 to finance the \$16.2 million erroneous capital investment.

Our recalculation resulted in average annual interest expense of \$577,000 without the rate increase and \$508,000 with the rate increase. Interest was lower under the rate increase model because the additional funds from the rate increase allowed for a more rapid repayment of debt principal.

Our revised forecast for repayment of debt principal and equity capital distributions is presented in Appendix Table XV (without rate increase) and Appendix Table XVIII (with rate increase). By our estimates, the system should be able to repay an average of \$521,000 in parent company debt per year, or a total of \$5.206 million by 1993 with no rate increase. We estimate a total of \$2.2 million in parent company debt would remain unpaid.

With the rate increase, we estimate that the system would be able to make an average annual repayment of debt of \$668,000 or \$6.01 million by 1993. With this assumption, all parent company debt should be repaid by 1992.

Cox claims to have made a \$1.366 million dividend payment in 1983. We ask that Cox's response to this report clarify to whom this payment was made.

Under our revisions of the forecast, without a rate increase, the system would be capable of making \$280,000 average per year dividend payment on capital distributions to the owners over the next ten years. With a rate increase, this amount could increase to \$670,000 per year on the average.

The historical capitalization of this system remains unclear due to contradicting information presented in the financial statements. The future capital structure presented by Cox is flawed in that it assumed a \$16.2 million rebuild in 1985. Our revisions were designed to yield a reasonable debt to equity structure and yield sufficient funds for interest payment, capital expenditure, debt repayment and investor distributions.

II. SYSTEM PROFITABILITY AND RETURN REQUIREMENT

Before beginning our presentation of the operator's profitability and revenue requirements, it is necessary to clearly explain the approach CTIC Associates uses in its evaluation.

The basic function of rate regulation is to determine revenue requirements. Subscriber rates are set so as to yield a) all costs associated with the operation of the company and b) a reasonable overall return (commonly called the cost of capital) on the assets dedicated to the business.

CTIC has chosen to employ a measure of rate of return which relates net income and after tax interest expense to net tangible assets. This approach is commonly used to evaluate the profitability of cable systems.

This approach is an after tax calculation and treats the system as though it were a wholly-owned subsidiary even though local investors are present. Our analysis can be expanded once we receive clarification from Cox about the structure of its local investor relationship.

1. RATE OF RETURN ON NET INVESTMENT

The first measure used by CTIC Associates to determine the rate of return is called rate of return on net investment and it is computed in the following manner:

$$ROI = \frac{\text{Net Income plus After-Tax Interest Expense}}{\text{Rate Base}}$$

This measure relates the return to both sources of capital to the investment made by that capital. The two sources of capital are, of course,

debt and equity. The return to the equity capital invested by the owners is net income (after tax). The return to the source of debt capital is interest expense. In this case, we use after-tax interest expense and related it to after tax interest cost.

The rate base in our formula is determined to be net investment in plant, property, and equipment plus an allowance for working capital.

Determining a fair rate of return is one of the most difficult and confusing aspects of rate regulation. Our approach to defining a fair rate of return is to say that a level of return is fair if it equals or exceeds the cost of capital. The cost of capital is dependent upon the percentage relationship between debt and equity; the capital structure. For example, if a corporation has a 60:40 debt to equity structure and interest costs at 12 percent, its cost of capital would be as follows:

-Example-				
	<u>Percent</u>	<u>Rate</u>	<u>After Tax Cost</u>	<u>Weighted Cost</u>
Debt	60	12	6.09*	\$ 3.95
Equity	40	20	20.00	\$ 8.00
Cost of Capital				\$11.65

*Assuming a 49.24 percent tax rate.

In this example, a fair rate of return, one which covers the cost of capital, would equal or exceed 11.65 percent.

-Example-

Adequate ROI \geq 11.65 Percent

In examining Cox's financial statements, we have accepted its historical expense and revenue allocations. However, we have requested clarification on

a number of items and may adjust our historical analysis if warranted by Cox's responses. In addition, we have revised several of Cox's forecasted expense allocations to account for overstated franchise fees, copyright fees, pay cable expense, corporate overhead and interest costs (due to inclusion of the erroneous rebuild funds)

We have also revised Cox's interest expense to account for only interest paid on the debt portion (60 percent) of parent company capital.

As presented in the Summary Appendix Table, Cox's 15 year average cost of capital is between 12.22 without the rate increase and 13.73 percent with the rate increase.

The cost of capital with the rate increase is higher because the debt portion is lower due to the ability to repay more parent company debt. Since equity capital has a higher "cost" than debt capital, the greater the percentage of equity, the higher the cost of capital.

1. Historical Performance

Table VII shows the average annual net income statement over the past five years, as reported by Cox. We have modified Cox's net income figures to allow current year utilization of Investment Tax Credits (ITC). Cox's report deferred the use of tax credit. However, since Cox's parent company is able to utilize the investment credits, we believe they are more appropriately allocated in the year in which they were generated.

As seen in Appendix Table VII Cumulative Net Income was a negative \$836,000. The addition of after tax interest expense yields a cumulative 5 year return to capital of \$1.41 million.

Table VIII shows the calculation of the historical rate base. This was developed by adding working capital (12 percent of operating expenses exclud-

ing corporate overhead, interest and depreciation) to net assets. This results in an average annual rate base of \$7.325 million. Dividing the return to capital (net income plus after-tax interest) by the rate base as is shown in Table IX, yields a 5 year average rate of return of 4 percent. Cox's cost of capital over that 5 year period is 11.07 percent. This information indicates Cox ^{did not} achieved a sufficient level of return over the past 5 years.

2. Cox's Forecasted Profitability

Tables X through XIII show the Income Statement and rate of return reflected in Cox's reported data.

As we discussed earlier, our analysis has raised several questions about the accuracy and reasonableness of that forecast. As seen in Table XII, Cox's figures show an inflated rate base due to the inclusion of rebuild funds.

Using Cox's figures, we achieve a 1 percent average annual rate of return over the next ten years with no rate increase and a 2.7 percent average annual rate of return with the rate increase.

3. Revised Calculation of Profitability With and Without a Rate Increase

Appendix Table XIV through XXI show CTIC Associates' adjusted financial forecast. These tables reflect the adjustments to the operating expense and capital items as discussed earlier in this report.

Table XIV reveals a cumulative 10 year forecasted after-tax return to capital of \$7.133 million with no rate increase. Table XVII shows a cumulative after-tax future return to capital of \$9.742 million with a rate increase.

Table XX shows our calculation of the rate base. Net plant was determined by adding projected capital expenditure to the previous year's net tangible assets and deducting depreciation expense. Working capital was estimated as described in the historical performance section.

Table XXI shows the rate of return under each assumption. Without a rate increase, Cox would achieve a 12.1 percent average annual rate of return compared with a 12.9 percent cost of capital. With the rate increase, Cox would achieve a 16.6 percent rate of return compared with a 14.9 percent cost of capital.

Our analysis then proceeded to determine the 15 year average rate of return by combining the historical rate of return with the projected rate of return under each model. Table XXII presents the results. Without a rate increase, Cox would achieve an average annual rate of return of 8.9 percent cost of capital, thereby implying the need for a rate increase.

With the rate increase, Cox would achieve an average annual rate of return of 11.7 percent. Somewhat improved, but still below the cost of capital.

Our preliminary recommendation is to allow the operator to increase its basic service fee to the requested \$11.95 per month. This rate increase will allow for improved profitability, although not an excessive return to capital. We must stress that this recommendation is a preliminary one. A final recommendation is dependent upon the responses of Cox to the questions raised at the end of this text.

III. SUMMARY

It is our preliminary finding that the rate increase as requested is merited. We have thoroughly reviewed the financial information provided by Cox Cable. We have raised some questions about its historical financial data. Those questions follow. In addition, we have concluded that Cox has overestimated certain expenses in its financial forecast; notably franchise fees, pay cable expense, copyright costs, advertising, promotion and corporate overhead allocations. We have also adjusted Cox's financial forecast to remove the impact of a project \$16.2 million capital investment erroneously included in 1985. We removed the impact of this error from depreciation, interest expense and debt. Despite all of these adjustments, we believe that the requested rate increase is merited based on reported historical financial performance and expected performance. This recommendation is preliminary and subject to revision based on Cox's responses. Of course, the financial analysis is only one part of the City's effort to determine the reasonableness and merit of a rate increase. Subscriber satisfaction and operator compliance with the ordinance can also be legitimately considered a criteria for determining the merit of a rate increase request.

The following statements summarize our request for clarification from Cox.

REQUESTS FOR CLARIFICATION

1. Cox is requested to clarify its inclusion of revenues for a mini tier. In addition, Cox is asked to clarify why it included substantially more funds for a mini tier service under the no rate increase model than it did under the rate increase model.
2. Cox is requested to justify its projected increase in salary expense between 1983 and 1984.
3. Cox is requested to clarify what rate of inflation was used to develop its' projections.
4. Cox is requested to explain its' plant maintenance budget.
5. Cox is requested to clarify the range in administrative staff expense over the past five years.
6. Cox is requested to clarify how it developed its interest expense allocations.
7. Cox is requested to clarify its financial arrangements with its local investors. Specifically a) the exact quantity of interest held by the local investor b) the exact quantity of equity capital and the amount provided by local investors c) any and all agreements between Cox Cable and the local investors regarding distribution of profits, losses, and tax benefits and d) any interest income and distribution paid to the local investors.

APPENDICES

TABLE I

SUBSCRIBERSHIP
ACTUAL AND FORECASTED

Year	Homes Passed	Basic	Pay	Basic Penetration	Pay-to-Basic Ratio
1980	32808	20767	19519	63%	.94
1981	57957	31817	28057	55%	.88
1982	63000	29181	25914	46%	.92
1983	64500	29014	26825	45%	.92
1984	64500	30761	31280	48%	1.02
1985	64500	31831	32468	59%	1.02
1986	64750	33023	34014	51%	1.03
1987	65003	33802	35154	52%	1.04
1988	65252	34257	36655	52%	1.07
1989	65497	34713	38184	53%	1.10
1990	65700	34821	38303	53%	1.10
1991	65800	34874	38361	53%	1.10
1992	65950	34954	38449	53%	1.10
1993	66000	34980	38478	53%	1.10

TABLE II

AVERAGE ANNUAL FORECASTED
REVENUE (\$000s)

	Without Rate Increase	With Rate Increase
Basic	3417	4592
Second Set	206	206
Installation	148	148
Pay TV	3652	3652
Remote	224	224
Mini tier	402	52
Advertising	<u>67</u>	<u>67</u>
	8116	8941

TABLE III

MONTHLY REVENUE PER SUBSCRIBER (Forecasted)

Year	Without Rate Increase	With Rate Increase
1984	19.19	19.81
1985	19.78	22.11
1986	20.05	22.32
1987	20.39	22.64
1988	20.81	22.98
1989	21.22	23.38
1990	21.57	23.68
1991	21.68	23.79
1992	21.74	23.83
1993	21.84	23.93

TABLE IV

AVERAGE ANNUAL
REVENUE (000's)

1979-1983

Basic*	1956
Installation	73
Pay TV	1748
Advertising	3
Mini-tier	37
Other	1
	<u>3818</u>

*Includes additional outlet.

TABLE V

MONTHLY REVENUE PER SUBSCRIBER

Year	Basic	Total
1980	4.43	8.29
1981	6.43	12.71
1982	8.75	17.23
1983	9.59	17.95

TABLE VI

MILES OF PLANT
CONSTRUCTED

ACTUAL AND FORECASTED

1980	.....	480
1981	.....	34
1982	.....	14
1983	.....	11
1984	.....	3
1985	.....	2
1986	.....	5
1987	.....	2
1988	.....	3
1989	.....	2
1990	.....	2
1991	.....	2
1992	.....	2
1994	.....	3

TABLE VII

NET INCOME, BEFORE INTEREST/AFTER TAXES
(\$000's)

ACTUAL 1979-1983

	1979	1980	1981	1982	1983	5 Year Total
Pretax Income	(321)	(1009)	(1126)	(1401)	98	(3759)
Less Income Tax @ 49.24%	(158)	(496)	(554)	(690)	48	(1850)
ITC*	(407)	(258)	(170)	(255)	13	(1077)
Net Income After Tax	244	(255)	(406)	(456)	37	(836)
Plus After-tax Interest @ 50.76%	39	277	540	1040	348	2244
Net Income Before Interest After Taxes	283	22	134	584	385	1408

*Investment Tax Credit

TABLE VIII
CALCULATION OF RATE BASE

	1979	1980	1981	1982	1983	5 Year Total
Net Plant	4392	6696	7435	8888	7635	35046
Working Capital	29	218	413	460	460	1580
Total Rate Base	4421	6914	7848	9348	8095	36626

TABLE IX
RATE OF RETURN

	1979	1980	1981	1982	1983	5 Year Total
A: Total Rate Base	4392	6696	7435	8888	7635	35046
B: Net Income Before Interest After Taxes	283	22	134	584	385	1408
Rate of Return	6.4%	.3%	1.8%	6.6%	5.0%	4.0%

TABLE X

COX CABLE REPORTED DATA
WITHOUT RATE INCREASE

FORECASTED NET INCOME, BEFORE INTEREST/AFTER TAXES
WITHOUT RATE INCREASE (\$000s)

Year	84	85	86	87	88	89	90	91	92	93	10-Year Total	15-Year Total
Pretax Income	134	(696)	(1137)	(1130)	(1103)	(1426)	(1864)	(2261)	(2459)	(2565)	(14507)	(18266)
Less Income Tax @ 49.24%	66	(343)	(560)	(556)	(543)	(703)	(918)	(1113)	(1211)	(1263)	(6801)	(8651)
ITC	(7)	(164)	(28)	(27)	(70)	(230)	(89)	(46)	(16)	(14)	(691)	(1768)
Net Income After Tax	75	(189)	(549)	(547)	(490)	(493)	(857)	(1102)	(1232)	(1288)	(6672)	(5836)
Plus After-tax Interest @ 50.76%	208	488	779	751	745	786	835	855	865	879	7191	9435
Net Income Before Interest After Taxes	283	299	230	204	255	293	(22)	(247)	(367)	(409)	519	1927

TABLE XI

COX CABLE REPORTED DATA

FORECASTED NET INCOME, BEFORE INTEREST/AFTER TAXES
WITHOUT RATE INCREASE (\$000s)

	84	85	86	87	88	89	90	91	92	93	10-Year Total	15-Year Total
Pretax Income	348	155	(241)	(164)	(95)	(361)	(758)	(1087)	(1220)	(1248)	(4671)	(8430)
Less Income Tax @ 49.24%	171	76	(119)	(81)	(47)	(178)	(373)	(535)	(601)	(614)	(2301)	(4151)
ITC	(7)	(164)	(28)	(27)	(70)	(230)	(89)	(46)	(16)	(14)	(691)	(1768)
Net Income After Tax	184	243	(94)	(56)	22	47	(296)	(506)	(603)	(620)	(1679)	(2515)
Plus After-tax Interest @ 50.76%	205	472	742	685	649	663	683	669	641	615	6024	8268
Net Income Before Interest After Taxes	389	715	648	629	671	710	387	163	38	(5)	4345	5753

TABLE XII

COX CABLE REPORTED DATA (\$000's)

CALCULATION OF RATE BASE

	84	85	86	87	88	89	90	91	92	93	10-Year Total	15-Year Total
Net Plant	7060	21827	20518	19213	18441	19172	18370	17063	15596	14376	171636	206682
Working Capital	565	607	641	681	719	764	804	839	876	915	7411	8991
Total Rate Base	7625	22434	21159	19894	19160	19936	19174	17902	16472	15291	179047	214093

TABLE XIII

RATE OF RETURN

	84	85	86	87	88	89	90	91	92	93	10-Year Total	15-Year Total
Without Increase	3.7%	1.3%	1.1%	1.0%	1.3%	1.5%	-	(1.4)%	(2.2)%	(2.7)%	-	1%
With Rate Increase	5.1%	3.2%	3.1%	3.2%	3.5%	3.6%	2.0%	.9%	.2%	-	2.4%	2.7%

TABLE XIV

CTIC REVISED INCOME STATEMENT (\$000's)
WITHOUT RATE INCREASE

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Total
Revenue	7083	7754	7947	8272	8554	8838	9011	9071	9120	9169	84819
Operating Expenses	4488	4815	5035	5301	5549	5843	6071	6235	6402	6587	56326
Operating Income	2595	2939	2912	2971	3005	2995	2940	2836	2718	2582	28493
Corporate Overhead	425	453	477	496	513	530	541	544	547	550	5076
Depreciation	993	1012	1042	1067	1137	1325	1308	1147	892	652	10575
Interest	865	805	733	661	589	517	481	445	373	301	5770
Pretax Income	312	669	660	747	766	623	610	699	907	1079	7072
Tax	753	329	325	367	377	307	300	344	446	531	3482
ITC	71	23	28	27	70	230	89	46	16	14	614
Net Income	230	363	363	407	459	546	369	401	477	562	4204
Plus After Tax Interest	439	409	372	335	299	262	244	225	189	152	2929
Net Income Plus After Tax Interest	669	772	735	742	758	808	613	627	666	714	7133

TABLE XV

CTIC REVISED SOURCES AND USES OF FUNDS
WITHOUT RATE INCREASE (\$000's)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<u>Sources</u>										
Beginning Balance	3	-	263	392	598	492	59	86	174	386
Cash Flow	1223	1784	1405	1474	1596	1871	1921	1548	1369	1214
TOTAL	1226	1784	1668	1866	2194	2363	1980	1634	1543	1600
<u>Uses</u>										
Capital Expenditure	711	230	276	268	702	2304	894	460	157	140
Debt Repay.	406	600	600	600	600	-	600	600	600	600
Dividends	109	691	400	400	400	-	400	400	400	400
TOTAL	1226	1521	1276	1268	1702	2304	1894	1460	1157	1140
CASH BALANCE	-	263	392	598	492	59	86	174	386	460

TABLE XVI

CTIC REVISED CAPITAL STRUCTURE
WITHOUT RATE INCREASE (\$000's)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Total
Equity	4674	4565	3874	3475	3075	2675	2675	2275	1875	1475	30638
Retained Earnings	(606)	(243)	120	527	986	1532	1901	2302	2779	3341	12639
Total Equity	4068	4322	3994	4002	4061	4207	4576	4577	4654	4816	43277
Debt	7012	6412	5812	5211	4611	4011	4011	3411	2811	2211	45513
Total Capital	11080	10734	9806	9213	8672	8218	8587	7988	7465	7027	88790
Debt to Equity Ratio	63:37	60:40	59:41	57:43	53:47	49:51	47:53	43:57	38:62	31:69	51:49
Cost of Capital	11.24	11.65	11.79	12.07	12.63	13.18	13.46	14.02	14.71	15.69	12.92

TABLE XVII

CTIC REVISED INCOME STATEMENT (\$000's)
WITH RATE INCREASE

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Total
Revenue	7314	8447	8844	9184	9448	9737	9894	9561	9994	10043	92861
Expenses	4504	4864	5085	5354	5603	5896	6123	6287	6453	6638	56807
Operating Income	2816	3583	3759	3830	3845	3841	3771	3669	3541	3405	36054
Corporate Overhead	425	453	477	496	513	300	541	544	547	550	5076
Depreciation	993	1012	1042	1067	1137	1325	1308	1147	892	652	10575
Interest	865	805	727	625	505	385	307	247	145	43	4654
Pretax Income	533	1313	1513	1642	1690	1601	1651	1731	1957	2160	15749
Taxes	262	647	745	809	832	788	795	853	964	1063	7755
ITC	71	23	28	27	70	230	89	46	16	14	614
Net Income	341	689	798	860	928	1043	945	924	1009	1111	7380
After Tax Interest	439	409	369	317	256	195	156	125	74	22	2362
Net Income Plus After Tax Interest	780	1098	1167	1177	1184	1238	1101	1050	1082	1133	9742

TABLE XVIII

CTIC REVISED SOURCES AND USES OF FUNDS
WITH RATE INCREASE (\$000's)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<u>Sources</u>										
Beginning Balance	3	13	300	300	300	300	-	197	200	200
Cash Flow	1432	1701	1804	1927	2065	2368	2253	2071	1901	1763
TOTAL	1433	1714	2140	2227	2365	2668	2253	2268	2101	1963
<u>Uses</u>										
Capital Expenditure	711	230	276	268	702	2304	894	460	157	140
Debt Repay.	600	700	1000	1000	1000	300	700	1000	712	-
Dividends	109	484	564	659	363	64	460	608	1032	1823
TOTAL	1420	1414	1840	1927	2065	2668	2056	2068	1901	1963
CASH BALANCE	13	300	300	300	300	-	197	200	200	-

TABLE XIX

CTIC REVISED CAPITAL STRUCTURE
WITH RATE INCREASE (\$000's)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Total
Equity	4674	4565	4081	3517	2858	2495	2431	1971	1363	331	28286
Retained Earnings	(495)	194	992	1852	2780	3823	4768	5692	6701	7812	34119
Total Equity	4179	4759	5073	5369	5638	6318	7199	7663	8064	7812	62405
Debt	7012	6412	5712	4712	3712	2712	2412	1712	712	-	35108
Total Capital	11191	11171	10785	10081	9350	9030	9611	9375	8776	7812	97513
Debt to Equity Ratio	63:37	57:43	53:47	47:53	40:60	30:70	25:75	18:82	8:92	0:100	36:64
Cost of Capital	11.24	12.07	12.26	13.46	14.43	15.83	16.59	16.49	18.89	20.0	14.99

TABLE XVIII

CTIC REVISED SOURCES AND USES OF FUNDS
WITH RATE INCREASE (\$000's)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<u>Sources</u>										
Beginning Balance	3	13	300	300	300	300	-	197	200	200
Cash Flow	1432	1701	1804	1927	2065	2368	2253	2071	1901	1763
TOTAL	1433	1714	2140	2227	2365	2668	2253	2268	2101	1963
<u>Uses</u>										
Capital Expenditure	711	230	276	268	702	2304	894	460	157	140
Debt Repay.	600	700	1000	1000	1000	300	700	1000	712	-
Dividends	109	484	564	659	363	64	460	608	1032	1823
TOTAL	1420	1414	1840	1927	2065	2668	2056	2068	1901	1963
CASH BALANCE	13	300	300	300	300	-	197	200	200	-

TABLE XIX

CTIC REVISED CAPITAL STRUCTURE
WITH RATE INCREASE (\$000's)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Total
Equity	4674	4565	4081	3517	2858	2495	2431	1971	1363	331	28286
Retained Earnings	(495)	194	992	1852	2780	3823	4768	5692	6701	7812	34119
Total Equity	4179	4759	5073	5369	5638	6318	7199	7663	8064	7812	62405
Debt	7012	6412	5712	4712	3712	2712	2412	1712	712	-	35108
Total Capital	11191	11171	10785	10081	9350	9030	9611	9375	8776	7812	97513
Debt to Equity Ratio	63:37	57:43	53:47	47:53	40:60	30:70	25:75	18:82	8:92	0:100	36:64
Cost of Capital	11.24	12.07	12.26	13.46	14.43	15.83	16.59	16.49	18.89	20.0	14.99

TABLE XX

CTIC REVISED
RATE BASE (\$000's)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Total
Net Plant	7353	6571	5805	5006	4571	5550	5297	4610	3875	3368	52006
Working Capital	539	578	604	636	666	701	728	748	768	790	6759
Rate Base	7892	7149	6409	5642	5237	6251	6019	5358	4643	4158	58765

TABLE XXI

CTIC REVISED RATE OF RETURN

	84	85	86	87	88	89	90	91	92	93	Total
Without Rate Increase	8.5%	10.8%	11.5%	13.2%	14.5%	12.9%	10.7%	11.7%	14.3%	17.2%	12.1%
Cost of Capital	11.24	11.65	11.79	12.07	12.63	13.18	13.46	14.02	14.71	15.69	12.92
With Rate Increase	9.9%	15.4%	18.2%	20.9%	22.6%	19.8%	18.3%	19.6%	23.3%	27.2%	16.6%
Cost of Capital	11.24	12.07	12.26	13.46	14.43	15.83	16.59	17.49	18.89	20.08	14.99

TABLE XXII

SUMMARY

A. <u>15-Year Total Return to Capital</u>	1979-1983	1984-1993	<u>TOTAL</u>
	<u>Actual</u>	<u>Forecasted</u>	
o Without Rate Increase	1408	7133	8451
o With Rate Increase	1408	9742	11150

B. <u>15-Year Rate Base</u>	1979-1983	1984-1993	<u>TOTAL</u>
	<u>Actual</u>	<u>Forecasted</u>	
	36626	58765	95391

Average Annual Rate of Return
(A ÷ B):

o Without Rate Increase	3.8%	12.1%	8.9%
o With Rate Increase	3.8%	16.6%	11.7%

Cost of Capital

o Without Rate Increase	11.07	12.92	12.22
o With Rate Increase	11.97	14.99	13.73

RECOMMENDATION

Average rate of return without rate increase falls below the cost of capital indicating need for rate increase. The requested rate increase results in an average rate of return slightly below the cost of capital, indicating that the requested rate increase is not excessive and is justifiable.

